MANUAL OF INSTRUCTIONS

FOR SECONDARY ROADS COUNTY ENGINEERS' LISTING

2014

Prepared by the

Iowa Department of Transportation
Division of Performance and Technology
in cooperation with the
United States Department of Transportation

NOTES FOR 2014

You will notice again this year that the Farm to Market Extensions through municipalities under 500 are located at the beginning of your inventory sheets. Since these segments are located within the corporate limits of a city, they are numbered differently and do not carry the township, range, section and road number fields. If you have a project or changes that affect these segments you may send in the project plans, notes and maps showing the extent of the project and we will update the inventory listing for you. If you have any questions or would like clarification on the specific segments, please feel free to contact Hermes Diaz.

Again this year, we are requesting information related to bicycle and pedestrian facilities that are adjacent to public roadways. Due to the increasing number of miles of bicycle and pedestrian facilities throughout the state, it is important to maintain an inventory of these facilities. The Federal Highway Administration requires every transportation agency to make accommodations for bicycling and walking a routine part of their planning, design, construction, operations and maintenance activities. Instructions for the bicycle and pedestrian updates are titled Bicycle and Pedestrian Inventory Data and are located in the Changes to Secondary Road Listing section of this document. Examples of bicycle and pedestrian data can be found in Appendix B.

Electronic versions of this document, county data sheets and county plat maps are located at;

http://www.iowadot.gov/research/analytics/countysec.html

CHANGES TO SECONDARY ROAD LISTING

Indicate your changes in **red** on the printed listings and note if the change is a correction in the data or a new project completed in 2014. We strongly recommend that revisions to the roads on the H&T maps and revisions on the listing be completed simultaneously. We believe that this procedure should eliminate any errors of omission.

In order to fit the necessary fields required for the bicycle and pedestrian information on a single page, we have modified the printouts you are receiving this year. You will notice the two secondary inventory sheets are different. **The copy with the new fields for bicycle information is to be returned to our office and the copy without the fields for the bicycle information is for your records**. Please note that even if you have nothing to report, **one copy must be returned to our office.** The online spreadsheets for the electronic submittal contain all of the fields found on both printouts.

Please include the surface, base, and sub-base thickness as well as the project number on the map or County Engineers Listing. Examples: (3" AC RES) (4" RSSB-6" ATB-3" ACS) (7" PCC). IF USING THE ELECTRONIC FORMAT, PLEASE INDICATE THIS INFORMATION IN THE COMMENTS COLUMN.

Adjacent county road segments are identified with a yellow or orange colored row.

ADDS, DELETES AND SPLITS

If you are working with printed listings, please write all additions and splits in red, noting as much information as is available. You can put them at the bottom of the listing if you need more room. For deletes, you can draw a line through the row and note that it is a delete next to the row. However, deletes must be accompanied by a resolution from the county Board of Supervisors.

If you are working with the electronic version, please DO NOT add/insert rows or delete rows. If there needs to be an addition/split or a deletion, please use the comment column next to the row to note deletions, or the row just above or below to note splits or additions. For more complicated

changes feel free to make notes about additions and deletions in a separate file and send that file along with your updates.

LEGAL NOT OPEN ROADS

The H & T maps enclosed indicate Legal Not Open (LNO) roads. These roads will be indicated by dashed lines. These LNO roads will NOT be indicated on H & T maps distributed for public use.

VACATED ROADS

Include a copy of the Board of Supervisors Resolution to Vacate , not the Notice of Hearing, for all vacated roads reported. We cannot delete the roads from the records without these resolutions.

If we do not receive the resolution, the road segment will be changed to legal not open and left on the inventory.

CONTACT INFORMATION

Please include the name and phone number for the individual who worked on the report to help direct any questions we may have.

INTEREPRETATION OF LISTING HEADINGS

CO NO – County Number

This is the numerical designation of the county.

TWN SHP – Township

This field identifies the township location.

RANG – Range

This field identifies the range location.

SCTN – Section

This field identifies the section number of the township and range location.

RD NO – Road Number

In general, odd numbers are used to indicate an east-west road and even numbers to indicate a north-south road. The roads bounding the north and west sides of a section are assigned to that section. East-west roads are assigned odd numbers working east and south from the northwest corner of the section; the east-west road starting at the northwest corner is assigned a Road 1, and consecutive odd numbers are assigned for other east-west sections of road. North-south roads are coded even numbers, the road starting at the northwest corner is assigned as Road 2, and other north-south sections of the road are coded consecutively by even numbers. Road numbers are shown on the online H&T Plat Maps.

SYSTEM DESCRIPTION – Highway System

The highway systems are as follows:

Description	System
Open	Area service
Open	FM
Legal Not Open	Area service
Legal Not Open	FM
Proposed	Area Service
Proposed	FM

FED FUN_CL - Federal Functional Classification

This is the federal functional classification assigned to the road section.

CNTY ROUTE – County Route Number
This is the county route number that has been approved. Any changes or additions have to be approved by the District Planner and Transportation Data. This procedure is explained in the Instructional Memorandum 4.01 sent to you in October 1995 and updated in 2002.

Route Number	Code
H27	H027
A54B	A54B

NAME – 911 Name
This depicts the 911 name for the route.

DUP – City Number
City number for corporate boundary roads when the corporate boundary goes to the centerline of the road.

DIR - Direction
This is used to help designate which direction of a divided roadway the data pertains to. If the roadway is non-divided, all of the data will be associated with the 'N' direction and is indicated in red on the spreadsheet. If there is no divided roadway, the southbound section will be blank. If the roadway is divided, the north/easterly direction of the divided roadway will be in the 'N' section of the spreadsheet indicated in red. The Opposite direction, labeled 'S' in the DIR field and on the far right side of the spreadsheet, is only data that pertains to the south/westerly side of the divided roadway.

NB LENG – Section Length
This represents, to the nearest thousandth of a mile, the length of the section of road. If the section of road forms the boundary between 2 counties, the length in this field will be divided by 2. The county number that the road is shared with will be indicated in the ADJ CO column.

EB SF_TYP – Surface Type
This represents the surface type of the segment. For a list of the codes see the Secondary Surface Types document, Appendix A.

ROAD SF_WD – Surface Width
This represents, to the nearest foot, the actual width of the wearing surface of the section of road.

ROAD WIDTH - Roadway
This represents, to the nearest foot, the surface width, plus the width of both the left and right shoulder.

SHD WD - Shoulder Width
This represents, to the nearest foot the width of the right side or outside shoulder.

MED TYP – Median Type
This indicates the median type if applicable**.** Usually 0 for no barrier

MED WD - Median Width
This indicates the median width to the nearest foot between the edges of traffic lanes if applicable**.**

CURB
This indicates whether the right side or outside shoulder has a curb.

TRAFFIC YEAR
This indicates the year of the last traffic count on this section of road.

AADT – Average Annual Daily Traffic
This indicates the average daily traffic on this section of road**.**

ADJ CO – Adjacent County
If the segment of road lies on the north or west county line, the adjacent county number will appear in this column and the column color will be yellow or orange. The segment length will reflect only half of the actual length.

UAC – Urban Area Code
Code for an urban area. This field is for reference only. A list of the assigned urban area codes can be found at http://www.iowadot.gov/research/analytics/CountySec/countysec.html.

BRIDGE
This is a count of the number of bridges or structures on a road section**.**

SEPA - Grade Separations
This is a count of the number of at grade separations on a road section.

RR1 – Railroad Crossing
This indicates the Iowa Crossing Number of the first railroad crossing in this section of road

RR2 - Railroad Crossing
This indicates the Iowa Crossing Number of the second railroad crossing in this section of road

RR3 - Railroad Crossing
This indicates the Iowa Crossing Number of the third railroad crossing in this section of road

DIR
This is used to help designate which direction of a divided roadway the data pertains to. If the roadway is non-divided, all of the data will be associated with the 'N' direction and is indicated in red on the spreadsheet. If there is no divided roadway, the southbound section will be blank. If the roadway is divided, the north/easterly direction of the divided roadway will be in the 'N' section of the spreadsheet indicated in red. The Opposite direction, labeled 'S' in the DIR field and on the far right side of the spreadsheet, is only data that pertains to the south/westerly side of the divided roadway.

SB LENG - Section Length
This represents, to the nearest thousandth of a mile, the length of the section of road on a divided roadway. If the section of road forms the boundary between 2 counties, the length in this field will be divided by 2. The county number that the road is shared with will be indicated in the ADJ CO column.

WB SF-TYP - Surface Type
This represents the surface type of the segments. For a list of the codes see the Secondary Surface Types document, Appendix A.

ROAD SF-WD - Surface Width
This represents, to the nearest foot, the actual width of the wearing surface of the section of road.

ROAD WIDTH - Roadway Width
This represents, to the nearest foot, the surface width, plus the width of both the left and right shoulder.

SHD WD - Shoulder Width
This represents, to the nearest foot the width of the right side or outside shoulder**.**

ADJ CO - Adjacent County Number
If the segment of road lies on the north or west county line, the adjacent county number will appear in this column and the column color will be yellow or orange. The segment length will reflect only half of the actual length.

COMMENT
This column is for noting adding additional comments to the changes you have made in your data.

BICYCLE AND PEDESTRIAN INVENTORY DATA

BIKE LN – Bike Lane
This field represents the presence or absence of an attached bike lane on this road segment. (These will all default to No unless otherwise stated on update)

BK LN WD – Bike Lane Width
This field indicates the width of the bike lane, if present, in feet.

BK SIGNED – Bike Signed Route
This field is used to indicate if the bike lane on this road segment is part of a signed bike trail. It includes both local trail names (i.e.: Neal Smith Trail, Heart of Iowa Trail, etc…) and/or national designations (i.e.: American Discovery Trail, Mississippi River Trail, etc…). This is a Yes or No field, the default will be No.

S W L - Sidewalk Present Left
This indicates a sidewalk present on the left side of the roadway.

SW WD L – Sidewalk Width on Left
This field indicates the width of the sidewalk, if present, in feet.

SW SF_TYP L - Sidewalk Surface Type Left
Surface type of left sidewalk**.**

Granular	20
AC	60
PCC	70

SW SIGNED RT L - Sidewalk Signed Route Left
Is left sidewalk part of a signed trail network.

S W R - Sidewalk Present Right
This indicates a sidewalk present on the right side of the roadway.

SW WD R – Sidewalk Width on Right
This field indicates the width of the sidewalk, if present, in feet.

SW SF_TYP R - Sidewalk Surface Type Right
Surface type of right sidewalk**.**

Granular	20
AC	60
PCC	70

SW SIGNED RT R - Sidewalk Signed Route Right
Is right sidewalk part of a signed trail network.

CHANGES TO MAP

H&T map is for you to update and return with major realignments, vacations, or new roads. Please note that even if you have nothing to report, we are requesting that you send an email to indicate this.

When you mark the major realignments on the map, please use the color code that is indicated in the Legend for H&T maps surface type. Show all changes on the H&T map where appropriate.

Please include the surface, base, and sub-base thickness on the map or County Engineers Listing. Examples: (3" AC RES) (4" RSSB-6" ATB-3" ACS) (7" PCC). **IF USING THE EXCEL SPREADSHEET FOR ELECTRONIC SUBMITTAL, PLEASE INDICATE THIS INFORMATION IN THE COMMENTS COLUMN FOR THAT SECTION.**

CORRECTIONS
Make your corrections in red. We have marked any questions we have in green. Check these questions, and if you approve of them, handle them like you would your own corrections. If you do not agree, cross out the green and either leave the item as it was or correct it in red.

ROAD ALIGNMENT
Show new roads, relocations, or corrections of location by drawing them in their proper place and circling in red. If at all possible, send a copy of the project plans or some information so the correct alignment can be placed on the map. New sub-divisions with a system of streets should be shown in an enlarged scale on the border of the map or send a separate drawing. All new roads and sub-divisions should include the E911 name if one has been assigned to it.

COMPLETED CONSTRUCTION
Indicate by the proper color and the project number regardless of whether or not it changes the surface type. The method to be used is to color the road constructed with the color representing the type of work done:

Green	Graded and drained, soil-surface, unimproved or primitive
Orange	Do not use
Red	Gravel or stone
Brown	Bituminous, with surface types in the 30 series
Yellow	Paved with surface types in the 60 & 70 & 80 series. (ACC & PCC types)

Use the colors even though there is no change in the surface type as shown on the map. Only those roads constructed or resurfaced during the year are colored.

Alongside the section of road constructed, enter the project number under which the work was completed. In the case a road was both graded and graveled, use both green and red. In the case of a new paved road, we need to know the sub-base thickness and material, base thickness and material, surface thickness and material, and if it is a resurfaced road, the thickness and material.

INCOMPLETE CONSTRUCTION
If a road has been re-graded and is to be surfaced the following year, enter the project number alongside the area and color green. Also, add a note that indicates it is incomplete. For example: "incomplete construction, to be paved (or graveled) next year".

CORRECTIONS IN SURFACE TYPE
If the surface type given on the map is not correct, color the section to indicate the proper type and note alongside the reason, i.e., Correction, Reverted, etc. Also, please include the length change from the closest intersection and the radius of any curves that have changed.

CLOSED ROADS
If a road is vacated, circle it, cross it out, and print "**vacated"** alongside it. Also send a copy of the resolution for the vacated road or we cannot vacate it. If it is a legal road not open to traffic, circle it and print "**not open"** alongside it.

BRIDGES
All bridges with a length of 20 feet or more are to be located on the map. Indicate bridges not previously shown by the symbol listed. Bridges removed, or for some reason no longer in existence, should be circled in red and marked "**remove**".

INCORPORATED AREAS
The corporate limits of all incorporated places should be checked and any revisions or corrections plainly indicated. If these changes affect the length of road sections, make the proper revisions in the County Engineer's listing.

RAILROAD CROSSINGS
Check the railroads. Some have been abandoned (with track removed) and not removed from the map.

AIRPORTS AND AIRFIELDS
Check the map to see if airports and airfields are shown properly. Please make a sketch to locate actual boundaries whenever new fields are established, or on existing ones if the map is in error. Give the name of the facility. Only public use airports are shown on the highway and transportation map.

Appendix A

Secondary Surface Types

We have condensed some of the previous surface types. Find the category which best fits the surface type used. If unsure or no category seems to be correct, use the generic surface type for that particular surface.

CODE	DESCRIPTION
00	Unknown
03	Grade & Drain, Soil-Surface Unimproved, Primitive *Natural earth surface graded and drained sufficiently to prevent serious impairment of the road by surface water. Natural soil surface treated for stabilization by adding an admixture such as calcium chloride, sodium chloride or fine granular material. Natural ground which may or may not be bladed to maintain bare passability.*
20	Gravel or Stone *A gravel or stone surface that has been stabilized by adding an admixture* such as calcium chloride, sodium chloride, or sulfonate.*
30	Bituminous *A bituminous surface is made from a liquid asphalt product (such as an emulsion) which is sprayed on.*
31	Bituminous over gravel or stone. *A bituminous surfaced road whose total thickness including the base coarse is less than 8 inches.*
60	Asphalt *An asphalt surface is made up a hot mix product.*
65	Asphalt on Portland Cement Concrete *Asphalt concrete resurfacing over a Portland cement surface.*
69	Asphalt over asphalt *Asphalt resurfacing on an asphalt surface.*
70	Portland Cement Concrete *Generic concrete*
74	Portland cement concrete (not reinforced or partially reinforced) *Portland cement concrete laid after 1960 and reinforced with tie bars** only.*
76	Portland cement concrete (fully reinforced) *Portland cement concrete laid after 1960 and fully reinforced. This type of road has joints.*
77	Portland cement concrete over Portland cement concrete *Portland cement concrete resurfacing on an existing Portland cement concrete surface.*
79	Portland cement concrete over asphalt *Portland cement concrete resurfacing on an existing asphalt surface.*
81	Brick
92	Combination surface *Combination surfaces are used in situations where a road surface is widened and the new surface is put down on the sides but the old surface remains in the middle of the road.*

*Admixture A substance or agent added to the basic ingredients during the mixing process for the purpose of stabilizing the surface. An example of such substances would be calcium chloride, sodium chloride, sulfonate, or other material.

**Tie Bars Small ¾" bars

11-2004

Bicycle and Pedestrian Inventory Examples

Bicycle Facilities (same pavement as roadway, painted separation for bike lane)

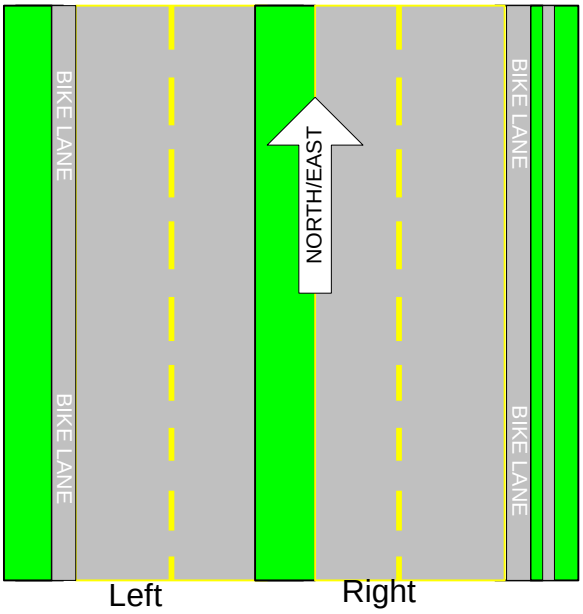
- Bike Lane (Y/N)
- Lane Width (feet)
- Signed Route**(Y/N)

Separated Paths/Sidewalks

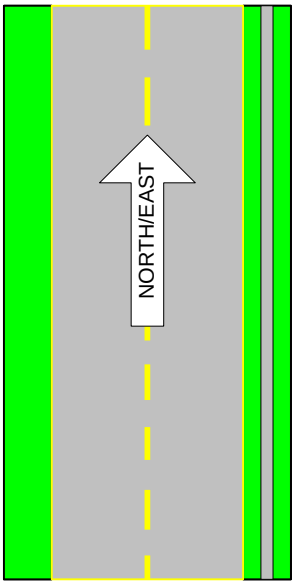
- Left Side*
  - Path/Sidewalk Present (Y/N)
  - Width (feet)
  - Surface Type (AC/PC/Granular)
  - Signed Route** (Y/N)
- Right Side*
  - Path/Sidewalk Present (Y/N)
  - Width (feet)
  - Surface Type (AC/PC/Granular)
  - Signed Route** (Y/N)

* While looking along the road in a northward or eastward direction. Left would be the opposite side of the roadway. Right would be the near side of the road way
** Signed as part of a trail network.

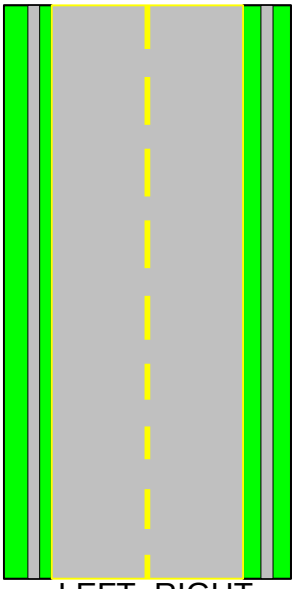
Examples of Coding:



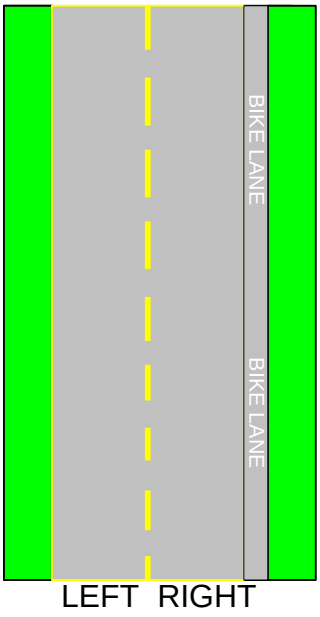
Bike Lane:	Y
Lane Width:	6
Signed Route:	N
Left Side	
Path/Sidewalk Present:	N
Width:	
Surface Type:	
Signed Route:	
Right Side	
Path/Sidewalk Present:	Y
Width:	4
Surface Type:	PC
Signed Route:	N



Bike Lane:	N
Lane Width:	
Signed Route:	
Left Side	
Path/Sidewalk Present:	N
Width:	
Surface Type:	
Signed Route:	
Right Side	
Path/Sidewalk Present:	Y
Width:	4
Surface Type:	PC
Signed Route:	N



Bike Lane:	
Lane Width:	
Signed Route:	
Left Side	
Path/Sidewalk Present:	Y
Width:	4
Surface Type:	PC
Signed Route:	N
Right Side	
Path/Sidewalk Present:	Y
Width:	4
Surface Type:	PC
Signed Route:	N



Bike Lane:	Y
Lane Width:	8
Signed Route:	N
Left Side	
Path/Sidewalk Present:	N
Width:	
Surface Type:	
Signed Route:	
Right Side	
Path/Sidewalk Present:	
Width:	
Surface Type:	
Signed Route:	